

## VI

### CURRENT LITERATURE

THE following extracts are copied, by kind permission, from the *Bulletin of Hygiene*, Vol. XI., 1936.

DILLMANN, C. "Zur Frage des Rückganges der Geschlechtskrankheiten." [On the Question of a Decline in the Number of Cases of Venereal Disease.] *Öffentl. Gesundheitsdienst.* 1935, v. 1, A.371-6, 1 fig.

THE author continued a census—begun in 1921—on the incidence of venereal disease in Nuremberg. His idea was not so much to show the absolute incidence, as the increase or decline year by year. Taking four "groups" of the population he was able to show that in three there was a decided decline in incidence of both gonorrhœa and syphilis in 1933 as compared with 1932; in one group, however, there was a rise in both. This group was represented by dependents of "sick fund" members and uninsured and destitute persons. Taking all four groups together there was a decrease of 7.9 per cent. in syphilis and 4.6 per cent. in gonorrhœa. Several tables give detailed figures.

The author ascribes the decrease to modern treatment, and methods of combating V.D. such as propaganda, supervision and ascertainment of sources of infection, and considers the decline of gonorrhœa to be due to improvement in economic conditions, stricter morals and diminished unemployment.

T. E. OSMOND.

SPIETHOFF, B. "Bordellstrassen und Altstadt-sanierung." [Brothels and Slum Clearance.] *Öffentl. Gesundheitsdienst.* 1935, v. 1, B.269-72.

PROFESSOR SPIETHOFF advocates the abolition of brothels in conjunction with slum clearance; the cost would not be great when the results to the social and economic life of the country are considered. Segregation of prostitutes is contrary to Nazi philosophy and is unsound morally and economically; brothels and pros-

## CURRENT LITERATURE

titutes constitute a menace to the race and endanger the lives of their patrons and their wives and children in the future. [The author states that "brothels can only exist in slum quarters"; this may be true of Germany but is not so universally. As to whether the abolition of brothels would cause a big fall in the incidence of venereal disease is a moot point—though in the article it is taken for granted.]

T. E. OSMOND.

NELSON, N. A. "The Decreasing Prevalence of Syphilis in Massachusetts." *J. Amer. M. Ass.* 1936, v. 106, 105-9.

REPORTS from many American States strike a pessimistic note so that it is cheering to hear that syphilis in Massachusetts is definitely on the decrease. Evidence to this effect is available from antepartum clinics, syphilis clinics and from physicians and institutions. Blood tests on pregnant women in Boston Lying-in Hospital 1915-1919 showed 5.2 per cent. positive and 4.9 per cent. doubtful reactions, whereas in the 1928-1930 period only 1.4 per cent. of women gave evidence of having syphilis.

In 22 clinics reporting regularly total admissions have declined 24.2 per cent. in the ten years 1925-1934; in marked contrast there has been a 45.6 per cent. increase of gonorrhœa. Similarly in cases reported by physicians the syphilis rate fell 11.0 per cent. whilst the gonorrhœa rate rose 11.7 per cent.

A review of the reported cases of syphilis reveals the fact that it is especially the *early* forms which have decreased, the figures being 1,521 in 1930 and 1,072 in 1934.

An analysis of age and sex incidence indicates that fewer single males and females are being infected and that as a result less syphilis is being carried over into marriage.

Neurosyphilis declined from 12.4 per hundred thousand of population in 1930 to 8.4 in 1934; this is confirmed by the decline in admissions to mental hospitals for dementia.

To summarise, there has been a 70 per cent. reduction in syphilis in pregnant women in 15 years, a 30 per cent. reduction in admission to syphilis clinics in 10 years, a 30 per cent. reduction in reported early syphilis in 5 years

## BRITISH JOURNAL OF VENEREAL DISEASES

and a 32 per cent. reduction in reported neurosyphilis in 5 years. This is in contrast with a marked increase in reported gonorrhœa over the same period and an increase in the number of old infections with syphilis brought to medical attention.

T. E. OSMOND.

RIETZ, E. "Könssjukdomarnas frekvens i Sverige."  
[The Incidence of the Venereal Diseases in Sweden.]  
*Hygiea*. 1936, v. 98, 249-62, 10 figs.

THE venereal diseases were included among the notifiable diseases in Sweden in 1913 and at the beginning of 1919 the new *lex veneris* came into force, with its provisions for free and, if need be, compulsory treatment. Charts of the incidence of the venereal diseases from 1913 to the end of 1935 show a peak in 1919 for both syphilis and gonorrhœa. No equally high peak has since been recorded for either disease, but the decline since 1919 continued only till 1925. From that year to 1930 there was a rise and, as far as gonorrhœa is concerned, it must be admitted that the number of new cases at the present time shows little or no improvement as compared with those for 1913 or 1923. With regard to syphilis, the situation is much better. Only 412 new cases were notified throughout Sweden in 1935, 98 of them being in Stockholm. In this town, in 1919, there were 44 new cases per 10,000 inhabitants, whereas the 98 cases in 1935 were equivalent to only 1.8 per 10,000. This decline in Stockholm has been quite remarkable since 1931, in which year there were as many as 484 new cases of syphilis. The corresponding figures for the following three years were 254, 130, and 110 respectively. Were it not for the importation of a stream of new cases every year from abroad, there would be a likely prospect of stamping out this disease in Sweden. The maintenance of a high gonorrhœa rate reflects the comparative impotence of modern treatment to ensure early sterilisation of infectious cases.

The measures, provided by the new law, for the discovery of sources of infection and for the provision of continuous treatment, seem to have varied much in effectiveness from time to time and in different areas. What is encouraging is that, in the past 14 years, the

## CURRENT LITERATURE

notifications of sources of infection have almost doubled, although the total number of cases of venereal disease has declined. But in the whole of Sweden only 56 per cent. of the notified sources of infection were a few years ago undergoing treatment and, in the case of Stockholm, this percentage was as low as 30-40. In this town a quarter of the patients discontinuing treatment prematurely cannot be traced, and the remaining three-quarters are induced to resume treatment by persuasion which, if need be, is backed by the police. Stockholm has to pay about half a million Kronor a year for the hospital care of venereal disease patients numbering at any time about 200, and the total public venereal disease bill for the whole of Sweden every year is more than two million Kronor.

C. LILLINGSTON.

SONNENBERG, E. "Neuf ans de traitement préventif bismuthique de la syphilis." [Nine Years' Preventive Treatment of Syphilis with Bismuth.] *Bull. Acad. Méd.* 1935, v. 114, 374-84. [11 refs.]

THE author describes a series of experiments, extending over a period of nine years, designed as prophylaxis against syphilis. Prostitutes were called upon to volunteer to submit to regular injections of bismuth. At first these injections were given weekly—the preparation being "Magisterium bismuthi"; this is subnitrate of bismuth in almond oil (10 per cent.), containing 72 to 73 per cent. of bismuth metal; of this 1 c.c. was given weekly at the commencement. Later this was altered to 2 c.c. every two weeks, and finally to 2.5 c.c. every two weeks. When 2 c.c. were given it was found that complete absorption occurred in an average of 77 days, whilst when 2.5 c.c. were given it took 98 days. With a dosage of 2.5 c.c. therefore it is assumed that 0.0018 gm. of metal is absorbed each day, and that the maximum is reached after 7 injections, after which the total amount of bismuth absorbed remains constant. With this treatment the numbers of women who contracted syphilis in the years 1930-34 were 8.4, 6.5, 8.0, 8.0 and 4.2 per cent. respectively. In all these cases the author was able to show that the failure to prevent infection was due to an insufficient amount of bismuth in the tissues—that is to

## BRITISH JOURNAL OF VENEREAL DISEASES

say that infection occurred either during the period of the first few injections or when these injections were interrupted or irregular. Five women have followed the treatment regularly for 9 years, 6 for 8, 10 for 7 and 8 for 6. No signs of intolerance were noted.

The question of a wider application of this method is discussed and it is suggested that it might be applicable to all prostitutes and also to those who are exposed to the risk of contagion such as the husbands or wives of infected partners.

T. E. OSMOND.

PAULIAN, D., and TANASESCO, G. "La perméabilité des méninges avant et après la vaccinothérapie, dans la paralysie générale progressive, par rapport aux injections intramusculaires des sels pentavalents d'arsenic." [The Permeability of the Meninges before and after Vaccine Therapy in Progressive General Paralysis as regards Intramuscular Injections of Pentavalent Salts of Arsenic.] *Bull. et Mém. Soc. Méd. Hôpit. de Paris.* 1935, Oct. 28, 1390-92.

BESIDES malaria therapy there are other pyrogenic agents—particularly diathermy and vaccines; this article deals with the latter.

In order to obviate possible accidents which may occur when trivalent arsenical salts are injected intravenously the authors tried vaccinotherapy followed by intramuscular injections of pentavalent arsenic (acetylarsan and arsaminol) to test their penetration and elimination by way of the cerebrospinal fluid.

They chose 4 cases of typical G.P.I. and gave each 0.45 gm. of acetylarsan or arsaminol intramuscularly; taking their spinal fluids at fixed times they found the quantity of arsenic to be 0.8 to 1.2 mgm. per 1,000 after 1 hour, 1.6 to 2 mgm. after 4 hours, and 0.5 to 0.9 after 24 hours. Following 5 or 6 injections of anti-typhoid vaccine they again gave 0.45 gm. pentavalent arsenic and took the spinal fluid as before, the amounts of arsenic being 1 to 1.7, 1.8 to 2, 0.7 to 1. Thus they show that vaccine therapy increases the permeability of the meninges but conclude that it is inferior, from the point of view of cure, to malaria.

## CURRENT LITERATURE

Their conclusions are not clear since they say "The effects of the vaccine on the specific lesions are less feeble ('*moins faibles*') than those of malaria therapy." [Presumably they mean just the opposite.]

T. E. OSMOND.

MORGAN, AUDREY G. "The Significance of Resistant Serologic Reactions." *Venereal Dis. Information*. 1935, v. 16, 379-83.

THE irreducible Wassermann reaction has long been the subject of discussion ; it is suggested that a better term would be "serologic resistance," carrying with it the implication that the serum reactions remain positive in spite of intensive treatment over a period of 2 to 3 years and that there are no clinical signs. It is generally held that the phenomenon is due to a persisting focus of spirochætes somewhere in the body, though some suggest that it is merely an indication that the tissues have acquired the habit of producing reagin. The evidence tends to show that "serologic resistance" is usually due to insufficient treatment in the early stages. Opinions differ as to the treatment of these cases, depending on the conception of the cause. Such cases may be divided into two classes : those with normal and those with abnormal spinal fluids. Each case must of course be treated on its merits, but many syphilologists do not consider persistent positive serum reactions alone an indication for indefinite continuation of treatment ; such patients should receive an adequate amount of arsphenamine and heavy metal, preferably combined with iodide, and then remain under clinical and serological observation. On the other hand, cases showing abnormal spinal fluids should be treated most energetically, even, if necessary, with malaria therapy. In any case, persistently positive serum reactions in a well-treated latent syphilitic do not necessarily spell danger. The case should be watched and periodical blood tests carried out ; if these are quantitative [the Sigma reaction is most useful in these cases] they are more valuable as they will show a rise or fall in the reagin content of the blood.

T. E. OSMOND.

## BRITISH JOURNAL OF VENEREAL DISEASES

COLE, H. N., with LIDA J. USILTON, J. E. MOORE, P. A. O'LEARY, J. H. STOKES, U. J. WILE, T. PARRAN, Jr., and R. A. VONDERLEHR. "Co-operative Clinical Studies in the Treatment of Syphilis. Cardio-vascular Syphilis." *Venereal Dis. Information*. 1936, v. 17, 91-118. [Refs. in footnotes.]

THE authors of this study are directors of the syphilis clinics of the Western Reserve University, the Johns Hopkins University, the Mayo Clinic, the University of Pennsylvania and the University of Michigan (called the Co-operative Clinical Group) with some members of the U.S. Public Health Service. They say "there is no syphilitic involvement of the human body which is probably more frequently overlooked than that of the cardio-vascular system." The cause is the silence of the disease in its earlier stages and "insufficient attention on the part of the physician to premonitory signs and symptoms." They examined the records relating to cardio-vascular disease in 10,614 syphilis cases dealt with in the five clinics mentioned, and in 6,253 cases of late or latent syphilis found clinical evidence of uncomplicated syphilitic aortitis in 4.9 per cent., saccular aneurysm in 1.2 per cent. and myocarditis in 0.8 per cent. The report is well worth careful study as it contains a great amount of valuable information on cardio-vascular syphilis which cannot be summarised here. It emphasises the great importance of thorough treatment in the early stages of syphilis because the evidence shows that this is a valuable preventive of cardio-vascular syphilis. It stresses also the great importance of keeping a sharp look-out for cardio-vascular syphilis, because the earlier it is detected and treatment commenced the better the outlook. The signs which are considered important in diagnosis of uncomplicated syphilitic aortitis are as follows:—

- (1) Teleroentgenographic and fluoroscopic evidence of aortic dilatation.
- (2) A tympanitic, bell-like, tambour accentuation of the aortic second sound.
- (3) A history of circulatory embarrassment.
- (4) Increased retromanubrial dullness.
- (5) Progressive cardiac failure.
- (6) Substernal pain.
- (7) Paroxysmal dyspnoea.

## CURRENT LITERATURE

Any three of these in a patient with a history of syphilis are considered sufficient to justify a diagnosis. The authors consider also that a systolic murmur in the aortic area and increased pulsation in the episternal notch are very frequent signs. Some of the authors' findings in the cases of uncomplicated aortitis were as follows: (1) The Wassermann reaction of the blood was positive in 72 per cent. of the cases and spinal fluid abnormalities were present in 49 per cent. (2) In patients adequately treated in the early stages not one developed a grave form of cardio-vascular disease in a period of 3 to 20 years. (3) Cardio-vascular syphilis was either definitely or probably the cause of death in 7.9 per cent. of patients inadequately treated after detection of uncomplicated aortitis as compared with 2.4 per cent. adequately treated. (4) The average duration of life for patients whose cardio-vascular syphilis had been treated with small doses of arsenicals was 20 months longer than in those treated with large doses. (5) It is well to start treatment of aortitis with a course of heavy metal. In the cases of aortic regurgitation, (a) 69 per cent. of the cases had had no treatment prior to detection of the lesion; (b) 62 per cent. of those so treated had spinal fluid abnormalities; (c) the average duration of life after detection of the lesion was increased from 40 months to 55 months by adequate treatment; (d) symptomatic relief was found in 30 per cent. of patients who had received less than 13 arsenical injections with interim heavy metal after detection of the lesion and in 60 per cent. of those who had received 13 or more arsenical injections with heavy metal.

In the series of aneurysm cases 64 per cent. had spinal fluid abnormalities and 31 per cent. showed concomitant neurosyphilis, principally parenchymatous. Of all the patients with aneurysm 77 per cent. had received no treatment prior to the detection of the aneurysm.

L. W. HARRISON.

WILSON, R., Jr., and LEVIN, S. L. "Observations on the Effect of Malaria on the Wassermann Reaction." *Amer. J. M. Sci.* 1936, v. 191, 696-702. [14 refs.]

THIS article is devoted to a discussion of the occurrence of false positive Wassermann and flocculation reactions in malaria. Many hold that malaria *per se* does not cause



## BRITISH JOURNAL OF VENEREAL DISEASES

non-specific serological reactions, including LLOYD and MITRA (*Trop. Dis. Bull.*, 1926, v. 23, 825) who found 14 per cent. of positive reactions in malarial cases, a percentage which falls within the expected syphilis rate for Calcutta; similarly THOMSON and MILLS (*Trop. Dis. Bull.*, 1919, v. 14, 80) found that all their malaria cases which gave positive Wassermann reactions also suffered from syphilis. KOLMER ("Serum Diagnosis by Complement Fixation," 1929) (this *Bulletin*, 1929, v. 4, 362) gives it as his opinion that it is very improbable that malarial parasites *per se* would produce the reagins responsible for positive Wassermann reactions, yet in the recent evaluation of sero-diagnostic tests for syphilis carried out in the U.S.A. the Kolmer test gave 19.4 per cent. of positive reactions in 36 cases of malaria in which syphilis could almost certainly be excluded.

Other investigators, including CRAIG and ST. JOHN, hold that malaria does occasionally cause false positive reactions, whilst in the evaluation referred to above every serologist got some positive results, the percentage varying from 8.6 to 20.6.

The difficulty in coming to a decision would appear to lie in the fact that the exclusion of syphilis can never be a certainty, at most it can only be presumptive.

In the author's series of 262 patients extending over a period of four years positive serologic findings occurred in 70. Of these, 13, one of whom also showed a positive cerebrospinal fluid, were almost certainly non-syphilitic.

The interesting point about these cases, details of which are given in a table, is that all subsequently gave negative reactions—whilst only 2 gave positive reactions on more than one occasion. In 7 out of the 13 the Kolmer and Kline tests carried out on the same specimen disagreed.

Recently FISCHER and GÜNSBERGER (*Trop. Dis. Bull.*, 1933, v. 30, 499) have suggested that the reaction is "traceable to the presence of antibodies directed specifically against erythrocytic lipoids liberated by the action of the malarial parasites on the red blood cells." [It seems a pity that the positive tests were not repeated sooner. The fact that in 7 cases the Wassermann and Kline reactions disagreed whilst all subsequently became negative suggests that in some cases at least the non-specific results were due to errors in technique.]

T. E. OSMOND.

## CURRENT LITERATURE

- (i.) GRUHZIT, O. M., with the assistance of W. D. LINDSAY, G. HENDRICKS and M. C. DODD. "Mapharsen ('Arsenoxide') in the Therapy of Experimental Syphilis and Trypanosomiasis." *Arch. Dermat. and Syph.* 1935, v. 32, 848-67, 7 figs. [18 refs.]
- (ii.) FOERSTER, O. H., MCINTOSH, R. L., WIEDER, L. M., FOERSTER, H. R., and COOPER, G. A. "Mapharsen in the Treatment of Syphilis. A Preliminary Report." *Ibid.* 868-89.

(i.) IN the first of these articles the authors present the results of more than three years' study of meta-amino-parahydroxyphenylarsine oxide, called arsenoxide, which is believed to be the compound formed in the body after the injection of an arsphenamine preparation. Various workers previously had obtained contradictory results with arsenoxide prepared in the laboratory, but TATUM and COOPER, who named the compound mapharsen, had found that it compared favourably with other anti-syphilitic agents, and this led to the present study of the effects of the drug on experimental animals. The authors' general conclusion, after testing the remedy for toxicity and effects on trypanosomiasis and experimental syphilis, is that it appeared to be well tolerated "and possessed at least as high a therapeutic value as that of neoarsphenamine." An idea of the order of the dosage may be gathered from the fact that the minimum effective dose (that required to clear the blood temporarily in about 18 hours) given intravenously to rats infected with *T. equiperdum* was 1 mgm. per kgm., which compares with 10 mgm. arsphenamine and 22 mgm. neoarsphenamine. The maximum tolerated doses were: mapharsen, 18 mgm. per kgm.; arsphenamine, 140; and neoarsphenamine, 200. This gives minimum effective indices of 18 for mapharsen and 14 and 9 respectively for arsphenamine and neoarsphenamine. The minimum curative doses (required to prevent relapse in 3 to 4 weeks), however, were 2, 12 and 24 mgm. respectively for mapharsen, arsphenamine and neoarsphenamine, giving the closely similar indices of 9, 11.6 and 8.3.

(ii.) The second paper reports on a clinical trial of mapharsen on about 80 patients, who received about 2,117 injections. The observations were made in great detail but only the general conclusion can be given here.

## BRITISH JOURNAL OF VENEREAL DISEASES

Visible syphilitic lesions healed as promptly as under arsphenamine treatment, and *Sp. pallida* disappeared usually within 24 hours of administration of the first dose. The Wassermann reaction was reversed to negative in nearly all the early cases, but returned to positive in half of them; in 5 cases the relapse was associated with changes in the spinal fluid. Jaundice occurred in 4 cases. [This is interesting in view of the opinion of some workers that it is the benzene radicle which is responsible for arsphenamine jaundice and the fact that the dosage of mapharsen is approximately one-tenth that of neoarsphenamine.] Severe immediate reactions occurred 31 times, or at the rate of 1 per 68.3 injections. They included severe vomiting (2), abdominal pain (4), pruritus (11) and erythema (2). No case in a larger series of 3,474 injections had a nitritoid crisis, but severe Herxheimer reactions with rigor and fever are mentioned as occurring after 60 mgm. [Judging by tests here, this seems to be about the minimum dose which can generally be counted on to cause *Sp. pallida* to disappear from the secretion of early lesions in 24 hours and is therefore comparable with 0.45 gm. neoarsphenamine.] The Herxheimer reaction is reported on as occurring more frequently than after neoarsphenamine. Another effect is sharp pain along the injected vein, but this seems to be prevented by injecting rapidly. In the discussion on this paper H. N. COLE (Cleveland), reporting on an experience of 97 patients treated with mapharsen, generally corroborated the findings of Foerster and colleagues. He thought the results in secondary and tertiary syphilis "certainly as good as with the arsphenamines." He had also seen severe Herxheimer reactions with a sharp rise of temperature to 104° or 105° F., but a rapid decline. John H. STOKES (Philadelphia) thought the reactions which had been reported might deter patients from continuance of attendance. Udo J. WILE (Ann Arbor) agreed with Cole "that mapharsen is a drug which commends itself because it has low toxicity, because no bad results have been noted, as with other drugs, and because the clinical results have been at least equal to the effects observed with other preparations of arsphenamine." He recommended continuance of the use of the drug "on an experimental basis."

L. W. HARRISON.

## CURRENT LITERATURE

PARMELEE, A. H., and HALPERN, L. J. "The Diagnosis of Congenital Syphilis." *J. Amer. M. Ass.* 1935, v. 105, 563-5, 4 charts. [12 refs.]

THE authors examined infants born of syphilitic mothers clinically, serologically and roentgenologically: (1) during the first few days of life; (2) at 6 weeks; (3) at 3 months; (4) at 6 months; and (5) at 1 year. On every occasion the X-ray method gave far more positive results than the serological. The clinical, which frequently can be no more than suggestive, usually occupied an intermediate position. It was in periods (2) and (3) that the X-ray gave the highest percentage of positive results, 62 and 63 as compared with 8 and 8 with blood tests. The bone lesions especially to be looked for are osteochondritis and periostitis or a combination of the two. Osteochondritis alone is noticed principally in (1) and (5), periostitis occurring with it particularly in the second and third periods and to some extent in the fourth. Periostitis alone is very rare in syphilitic infants.

The moral to be drawn is—have an X-ray examination carried out on every infant born of a syphilitic or suspected syphilitic mother; do not rely too much on blood tests.

T. E. OSMOND.

INGRAHAM, N. R., Jr. "Roentgen-positive Sero-negative Infantile Congenital Syphilis." *Amer. J. Dis. Children.* 1935, v. 50, 1444-54, 7 figs. [11 refs.]

CLINICAL examination and serological tests are insufficient for the diagnosis of congenital syphilis. The use of X-rays enables a positive diagnosis to be made in many more cases. In a series of 134 selected cases born of syphilitic mothers at the Philadelphia General Hospital, 49 showed typical bone changes whereas only 9 of these gave clinical or serological evidence of syphilis, or both. Of the 49 cases, 26 showed bony lesions at 6 days and 23 additional ones at ages varying from 1 to 10 months.

Eight cases are reported—one normal and seven syphilitic—to demonstrate the kind of lesions which may be seen with X-rays. Periostitis is common; sclerosis may be seen in the metaphyses of the long bones with

## BRITISH JOURNAL OF VENEREAL DISEASES

sub-metaphyseal rarefaction. These changes are well shown in the photographs.

Treatment of the mother prior to delivery affects the picture. Of 51 cases in which the mother was treated for more than 2 months 9.8 per cent. of babies showed X-ray evidence at 6 days; of 68 cases in which less than 2 months' treatment was given 30.8 per cent. showed positive evidence. Of 36 cases in which there was no roentgenographic evidence at 6 days, 33 per cent. subsequently became positive.

T. E. OSMOND.

INGRAHAM, N. R., Jr. "The Diagnosis of Infantile Congenital Syphilis during the Period of Doubt."  
*Amer. J. Syph. and Neurol.* 1935, v. 19, 547-80,  
4 figs. [175 refs.]

THIS article consists largely of a review of all the methods available for the diagnosis of congenital syphilis; it is extremely well documented, there being no less than 175 references. The author lays stress on the fact that, in order that treatment may have its maximum effect, it should be commenced during the first two months of life.

The first step is to diagnose syphilis in the mother. Whether this is recent or old appears to be of very little importance; what is important is the amount of treatment which she has received and the stage at which it was started. No treatment means that 4 out of 5 children will be syphilitic: 16 weeks or more of treatment should ensure that 6 children out of 7 will be healthy.

Clinical examination of the child is rarely of any help in the early weeks of life and cord blood tests are not of much value, the exception being where the cord blood is positive and the mother's blood negative. Two other investigations, described elsewhere, are of great value. The first is examination of the scrapings from the umbilical vein for spirochaetes and the second X-ray examination of the long bones. A combination of the above methods will detect about 50 per cent. of cases, ultimately proved to be syphilitic, during the first week of life and about 75 per cent. by the end of the second month.

T. E. OSMOND.

## CURRENT LITERATURE

LANDESMANN, A. U., TARSIS, F. J., TULBERMANN, D. G., and JOËLSON, F. B. "Sur la fréquence des recherches positives du tréponème pâle dans la conjonctive de l'œil et de la muqueuse nasale des enfants atteints de syphilis congénitale." [The Frequency with which the *Spirochæta pallida* is found in the Conjunctiva of the Eye and Nasal Mucous Membrane in Children with Congenital Syphilis.] *Giorn. di Batteriol. e Immunol.* 1936, v. 16, 307-18. English summary (5 lines).

VERY few cases have been recorded of the finding of *Sp. pallida* in the mucous membranes of syphilitic children and until recently there was little to be found in the literature as regards search for it in the conjunctiva and other parts of the eye. It is the conjunctiva which has received most attention.; some think that *Sp. pallida* found in the conjunctival secretion came from the conjunctiva itself. ERDMANN and MOHRMANN found them in scrapings; others suggest that they had come *via* the nasolachrymal canal from the cavity of the nose or from fissures at the angles of the eyelids.

Between February, 1931, and July, 1932, the authors examined 32 cases. In two the Wassermann reaction was strongly positive without any clinical sign; in neither was the *Sp. pallida* found in the mucous membranes. The other 30 cases all had active signs—mostly cutaneous. Search was made by gentle scraping of the mucous membrane and massage of the eyelids followed by examination with the dark-ground microscope. Spirochætes were found in the skin lesions 12 times, only in the nasal mucous membrane 7 times and in the conjunctival sac 13 times. They were never found in the nasal mucous membrane when there were no skin manifestations. The number of spirochætes found in the nasal mucous membrane and conjunctiva was always much greater than in the papules; more spirochætes also were always seen by dark-ground than by staining methods.

The fact that spirochætes are commonly present in the eye should be a warning of the danger which congenital syphilitic children run of eye troubles and of their infectiousness for others, especially doctors and nurses.

T. E. OSMOND.

## BRITISH JOURNAL OF VENEREAL DISEASES

SMITH, F. R., Jr. "Congenital Syphilis in Children. Results of Treatment in 521 Patients, Parts I. and II." *Amer. J. Syph.* 1935, v. 19, 532-46; 1936, v. 20, 45-55. [19 refs.]

PART I. This part deals with "early" cases—that is to say up to 2 years of age. These number 621, of whom 279 were followed for 2 years or longer. In the case of treated mothers (in no case was treatment adequate) 64 per cent. of children showed active lesions—whereas in the case of untreated mothers 80 per cent. showed lesions; as the amount of treatment given to the mothers increased so the percentage of children with lesions diminished. Wassermann-fastness was found to show a percentage of 23.6 in early cases as compared with 71 in late cases; this phenomenon decreased in proportion to the amount of treatment and the age at which it was started.

As regards the cerebrospinal fluid the position is much the same as in acquired syphilis, that is to say a positive reaction in an early case is of no great significance and is easily reversed, whilst an early negative does not preclude neurosyphilis later. Relapse occurs more frequently as age at commencement of treatment increases and in proportion to the amount of treatment received, though neurosyphilis must be excluded, since adequate treatment failed to prevent this in 4 out of 42 cases.

All early congenital syphilis is amenable to treatment except neurosyphilis.

PART II. deals with late congenital syphilis, and includes a study of 370 patients, of whom 242 were followed for from 2 to 15 years. It was noted that the number of patients with latent disease decreased rapidly as age increased, principally due to interstitial keratitis and central nervous system involvement. It is interesting to note that relapses occurred at the same age as in untreated cases, but the incidence of relapse decreased with the amount of treatment. No case of eighth-nerve deafness was noted but C. N. S. syphilis was not uncommon and did not respond well to treatment; in fact it was the only cause of death attributable directly to syphilis.

Lesions except interstitial keratitis and those of the C. N. S. healed rapidly under treatment—usually after two courses. Wassermann-fastness was found in 71 per

## CURRENT LITERATURE

cent. ; it occurred in 39.6 per cent. of those who began treatment between 2 and 4 years, and rose to 84 per cent. in those who did not begin till 11 to 15 years of age ; relapse was nearly twice as high in Wassermann-fast cases as in those whose reactions were reversed by treatment.

T. E. OSMOND.

LEVADITI, C., VAISMAN, A., SCHOEN, R., and MANIN, Y., in collaboration with M. PAIC, P. HABER and N. CONSTANTINESCO. "Recherches expérimentales sur la syphilis (deuxième mémoire). Variations de l'activité pathogène et cycle évolutif du virus syphilitique." [Experimental Researches in Syphilis. (Second Article.) Variations in Pathogenic Activity and the Evolutionary Cycle of the Syphilitic Virus.] *Ann. Inst. Pasteur.* 1936, v. 56, 251-306, 20 figs. [Refs. in footnotes.]

THE authors carried out their investigations on the above subjects at the Alfred-Fournier Institute and report on the work done during the years 1932-35.

Using rabbits and white mice they found that virulence was a variable factor in animal experiments ; the Truffi strain of spirochætes after 14 years became less virulent for man and after 23 years for animals. It is suggested that this factor holds out a hope that a virus-vaccine might eventually be found if other animals could be employed to reduce the virulence further.

In the case of white mice lymph glands but not blood are infectious—but even in these the organisms die out after 2 or 3 passages ; on the other hand after 200 days in a rabbit they remain active (sections impregnated with silver proved far better for demonstrating these organisms than the dark-ground microscope).

The theme of this paper is to show that there are at least two stages in the life cycle of the *Sp. pallida*—one of the organisms as ordinarily described and one invisible. Various experiments are described supporting this ; for example, suitable material from a syphilised animal proved infectious whether it was teeming with spirochætes or whether none could be demonstrated. In order to prove their point the authors tried to see if they could differentiate between the "vegetative" and "infra-



## BRITISH JOURNAL OF VENEREAL DISEASES

visible " forms by the use of radium rays, mercury rays and glycerine, but results were negative.

The article concludes with a criticism by M. BESSEMANS of Ghent of the possibility of an evolutionary cycle. He does not believe that it exists. Twenty excellent figures are included—several of which show *Sp. pallida* in sections together with the cellular reactions caused by them.

T. E. OSMOND.

VERGE, J. " Les spirochétoses du lapin et du lièvre." [The Spirochætoses of the Rabbit and the Hare.] *Rev. Gén. de Méd. Vét.* 1936, v. 45, 13-19.

THIS article contains a very useful account of a spirochætal disease of rabbits and hares which, on occasion, has led workers on experimental syphilis into error because the causal organism, *Sp. cuniculi*, is morphologically indistinguishable from *Sp. pallida*. According to Verge the disease was first described by BOLLINGER in 1874 as producing in hares a great hypertrophy of the testicles and ulceration of the scrotal or vulvar skin. Its cause was first discovered by E. H. ROSS in 1912 (*Brit. M. J.*, 1912, ii., 1651 (footnote)) and the organism was described in more detail by H. BAYON in 1913 (*Brit. M. J.*, 1913, ii., 1159). The disease is acquired usually by rabbits and hares through coitus but infection can follow contact without coitus, *e.g.*, from rabbit to rabbit in adjoining cages. The incubation is from 2 weeks to 4 months (usually 3 or 4 weeks), and the primary sores commence as minute macules which become nodules varying in size from a pin's head to a pea. They ulcerate and the ulcers tend to run together but are not indurated. The secondary stage is characterised by nodules varying from a millet seed to a lentil scattered over the body; the nodules ulcerate but are not indurated, and ulceration is only superficial. The ordinary syphilitic serum reactions are negative, and human beings, monkeys, dogs, cats, guinea-pigs, rats and white mice are said to resist infection, but white rats are said to have been infected. The disease responds readily to treatment by the usual anti-syphilitic remedies.

L. W. HARRISON.

## CURRENT LITERATURE

STROESCO, G., in collaboration with M. A. VAISMAN.  
“Nouvelles données sur la syphilis expérimentale  
cliniquement inapparente de la souris.” [New Data  
on Experimental Latent Syphilis in the Mouse.]  
*Bull. Acad. Méd.* 1936, v. 115, 657-70, 7 figs.  
[11 refs.]

SYPHILIS in the mouse though showing no outward sign is really a generalised infection of the whole reticulo-endothelial system by the spirochæte ; such a dispersion of spirochætes does not occur in animals such as the rabbit and monkey, which show syphilitic lesions. Figures in the text show very clearly spirochætes in the neighbourhood of the hair follicles, in the Malpighian layers and papillæ of the skin and around the small blood vessels. Small fragments of skin have been shown to cause typical scrotal chancres in rabbits. All the various mucous membranes, especially that of the tongue, appear to harbour spirochætes equally with the skin ; most parts of the body contain these organisms also—bladder, seminal vesicles, testes, uterus, salivary glands, bones and cartilages and even the bone marrow, but they are not usually found in the internal organs such as the lungs, heart, liver and alimentary canal. On the other hand, whilst spirochætes can be found in the nerves, both motor and sensory, and even in such places as the dura mater, they are never found in the brain or spinal cord. Evidently there are great differences between human and mouse syphilis, since in the latter histological examination fails to reveal any inflammatory reaction even where spirochætes are present in large numbers ; it would appear that they are entirely saprophytic and obey no embryological law, since they multiply equally freely in tissues of different origin, skin and periosteum, glands and genital organs, lymphatic system and bone marrow.

T. E. OSMOND.

No. 1, 179 pp. [Bibliography.] “Report of the Committee for Survey of Research on the Gonococcus and Gonococcal Infections.” [Prepared by RUTH B. THOMAS, M.D., Assist. Sec., and S. BAYNE-JONES, M.A., Chairman.]

THE American Social Hygiene Association has long felt the need for a systematic investigation of the gonococcus

## BRITISH JOURNAL OF VENEREAL DISEASES

and gonococcal infections, and in 1932 its President, Dr. Edward J. Keyes, proposed to the Division of Medical Sciences of the National Research Council that they should co-operate in such a research. The N.R.C. agreed, and a committee was formed of representatives of both bodies. This Committee met first in June, 1933, and resolved to "collect, analyse and collate the facts already established and the efforts now in progress to add to the knowledge of the gonococcus and gonococcal infections. . . ." Also to discover where, in the U.S.A., research was in progress, to enlist interest in the subject and to promote research.

The Committee have searched the world very diligently for information regarding work on the gonococcus by studying the literature, by personal interviews, by correspondence, by asking in the Press for reprints of articles on the subject and by personal enquiries wherever practicable, and the result is the present report, which is a critical review of knowledge on the subject prepared by the Assistant Secretary, Dr. Ruth Boring Thomas, and the Chairman, Dr. S. Bayne-Jones. It is easily the most comprehensive summary of modern knowledge of the gonococcus, gonococcal infections and the principles of their treatment in existence and will undoubtedly prove indispensable to workers in this field. Its value is enhanced by a bibliography of 535 titles of articles and books, of which 500 were published in the period January, 1929, to August, 1935. A high proportion of the articles are in English, but the compilers state that all French and German articles listed in 1930 to 1934 in the Index Medicus dealing with the fundamental biology and immunology of the gonococcus and those dealing with hopeful lines of treatment have been read and most of them abstracted. Some articles in other languages have also been dealt with, and in fact every effort has been made to omit no article which would throw any light on the subject.

At the end of the Report is a summary and conclusions by the Committee, with notes on a suggested programme of research. In this they say that "two fundamental problems whose solution would appear to lead to the greatest progress are" the biochemical nature of the gonococcus and the production in animals of gonococcal infection similar to that in human beings. As supplementary measures worthy of more study are laboratory

## CURRENT LITERATURE

methods of isolation and identification and serological tests; the development of a specific remedy; heat therapy as a rapid method of reducing infectivity; studies of vulvo-vaginitis in children, its treatment by hormone (theelin) for example, the modes of transmission and control and late effects; and epidemiological studies.

L. W. HARRISON.

HOLLANDER, B. "Gonorrheal Infection in Samoa."  
*U.S. Nav. M. Bull.* 1936, v. 34, 235-42. [12 refs.]

IN 800 patients admitted to the Samoan Hospital during 18 months there were only 6 males, 4 females and 6 infants suffering from gonorrhœa though every patient is thoroughly examined on admission and a special lookout kept for venereal infection. In 7,884 patients seen in the out-patient department of the hospital no venereal disease was seen, and in the naval personnel, approximately 220 strong, in the years 1933, 1934 and 4 months of 1935 only 14 infections with gonorrhœa appear to have been contracted locally. This is in spite of the fact that sexual promiscuity seems to be particularly free. The relative infrequency of gonorrhœa in native Samoans has been commented on by many medical officers, but Hollander thinks that concealment of the disease may be a factor in the apparent scarcity. The natives eat a bland diet and drink much of an infusion of kava root which is believed to be a good medicine for genito-urinary diseases. [Extract of kava enters into the composition of some of the proprietary preparations containing sandal-wood oil that are sold for treatment of gonorrhœa.] Some medical officers have suggested as a reason for the apparent scarcity of the disease an acquired immunity and some the bouts of filarial fever to which many are subject, but the author does not think either of these likely. He thinks that avoidance of alcohol, bland diet, rest and absence of drastic treatment during any attack of gonorrhœa from which a native may suffer lead to quick recovery. He reports a case of gonorrhœa in a male child aged 20 months. It seems to have cleared up in about 8 days under instillations, with a medicine dropper, of 10 per cent. argyrol into the preputial sac (not into the urethra). It is stated that the child had balanitis but the pus obtained from within the urethra showed "characteristic Gram-negative intracellular diplo-

## BRITISH JOURNAL OF VENEREAL DISEASES

cocci of gonorrhœa." The report also mentions that a conjunctivitis due to Gram-negative intracellular diplococci has "sometimes attained epidemic form."

L. W. HARRISON.

RUYS, A. CHARLOTTE. "The Etiology of Vulvo-vaginitis Infantum." *J. Amer. M. Ass.* 1935, v. 105, 862-4. [10 refs.]

THE most important point to decide at the outset is whether the gonococcus is the cause or not. For the detection of gonococci in films the author recommends van Loghem's Gram stain; for cultural purposes she prefers Levinthal-agar plates with 20 per cent. ascitic fluid and a blood-water-agar medium of Beiling. (This is prepared by mixing 2 parts of blood-water, which consists of equal parts of horse-blood and distilled water heated at 60° C. for 30 minutes, with 3 parts of 2 per cent. nutrient agar.) Results were as follows:—

Smears positive, cultures positive, 111 ;  
,, negative, cultures positive, 14 ;  
,, positive or doubtful, cultures negative, 7.

As regards rectal infection the author found the best method of taking the specimen was to scrape the rectal mucosa with a strong loop while the anus was held open by an assistant. With this method gonococci were grown from the rectum of every child with genital gonorrhœa. Results were:—

Smears positive or doubtful, cultures positive, 49 ;  
,, negative, cultures positive, 16 ;  
,, positive, cultures negative, 5.

Non-gonorrhœal vaginitis may be divided into acute and chronic. The former may occur in scarlet fever, influenza and diphtheria; the latter may be associated with a variety of organisms, *Staphylococcus aureus* and *albus*, *Diplococcus crassus*, *Streptococcus hæmolyticus* and *viridans*, *Bact. coli*, *Proteus*, diphtheroids or *N. catarrhalis*. In addition one must always consider the possibility of constitutional diseases and masturbation as possible causes—whilst the presence of foreign bodies should always be excluded. Stress is laid on the fact that gonorrhœal vaginitis is always acute and that the rectum is invariably infected.

T. E. OSMOND.

## CURRENT LITERATURE

VON HAAM, E., and D'AUNOY, R. "Infectivity of the Spinal Fluid in Lymphogranuloma Inguinale." *J. Amer. M. Ass.* 1936, v. 106, 1642-3.

THE train of symptoms presented by the average acute case of lymphogranuloma inguinale—fever, chills, weakness, anorexia, profuse night-sweats, violent headaches, perhaps vertigo and nausea—points to the disease being a general and not a purely local infection. The intensity of the headache led to investigation, by different workers, of the cerebrospinal fluid and reports of their findings varied.

The authors selected patients in the acute stage only, giving a positive Frei reaction, negative Wassermann. A gland was excised in each case and 10 per cent. emulsions were injected intracerebrally into white mice. Also spinal fluid, 0.01 c.c., was injected similarly. Some of the mice were killed after 2 weeks for further animal passage and for histological examination of their brains; others were kept till symptoms were present. In all cases the changes, clinical and histological, were typical after injection of gland emulsion, and, in two, similar changes followed injection of the spinal fluid, and brain emulsions of the mice in these last two gave strong cutaneous reactions in L.i. patients.

There is evidence, therefore, that L.i. under certain circumstances at all events can become a systemic infection. Whether, as COURTIS affirms, the course of the disease can be divided, like syphilis, into three stages needs further confirmation. According to him there is an incubation period to the appearance of the primary lesion up to 3 weeks; a secondary stage with constitutional symptoms, buboes, conjunctival and skin lesions, and anæmia; and a third during which may be seen elephantiasis of the genitalia, vulval ulceration (esthiomene) and rectal stricture (ano-rectal syndrome).

H. H. S.

REICHLE, H. S., and CONNOR, W. H. "Lymphogranuloma Inguinale. Report of a Case with Involvement of Retroperitoneal Lymph Nodes and Probable Involvement of the Hip Joint, Adrenals and Kidneys, with Autopsy." *Arch. Dermat. & Syph.* 1935, v. 32, 196-203, 2 figs.

REICHLE and Connor refer first to the fact that, although in the majority of the recorded cases of L.i.,

## BRITISH JOURNAL OF VENEREAL DISEASES

bubo or the ano-rectal syndrome have mostly filled the picture, some workers have described cases in which the virus appears to have travelled beyond the lymphatic structures. Thus FRAUCHIGER (*Schweiz. Med. Woch.*, 1933, v. 63, 1207) described 2 cases of ano-rectal syndrome with chronic polyarthritis affecting elbows, knees and wrists, in one of which the arthritis improved after resection of the rectum and in the other an apparently sterile para-articular abscess was discovered. The authors' case was a negro, with at first typical signs of L.i. but in the course of the disease arthritis of one hip developed besides typical lesions of L.i., affecting the entire chain of glands from the inguinal region through the retro-peritoneal region to the diaphragm. Autopsy revealed also granulomatous lesions of the kidneys, hæmorrhagic infection of both adrenal glands, a psoas abscess and the arthritis mentioned above, and in all of them the histological appearances suggested that the virus of L.i. was the cause. Material from these lesions was not inoculated into animals, and the authors say they have published the case to stimulate a closer study of any extra-lymphatic lesions occurring in cases of L.i. and inoculation of animals with material from such lesions.

L. W. HARRISON.

MIYAGAWA, Y., MITAMURA, T., YAOI, H., ISHII, N., and OKANISHI, J. "Studies on the Virus of Lymphogranuloma Inguinale Nicolas, Favre and Durand. Second Report: Experimental Findings in Mouse Infection." *Japanese J. Exper. Med.* 1935, v. 13, 331-9, 21 figs. (15 coloured) on 5 pls.

In a previous paper (see this *Bulletin*, 1935, v. 10, 574) the authors described certain granulocorpuscles which they believed to be the virus of L.i. In the present report, after describing various inoculation experiments on mice and the histological appearances of the affected tissues, they amplify their previous description of the granulocorpuscles. These they found in infected mice and having the same characteristics as the bodies found previously in human lymph gland and monkey's brain infected with L.i. Perhaps as an answer to the objections of TOYAMA, HASEGAWA and ICHIKAWA (see this *Bulletin*, 1935, v. 10,

574) they say that the granular bodies seen in lymph glands affected with Hodgkin's, soft chancre and syphilis are easily distinguished from the bodies they believe to be virus of L.i. They have studied tissues of monkeys and mice both normal and experimentally infected with a variety of diseases other than L.i. and have not found the bodies described by them in any of them. The corpuscles are spherical, about  $0.3 \mu$  in diameter, stained strongly by Giemsa, Gram-negative and not stained by the Feulgen method. They occur chiefly in histiocytes but sometimes in glia and other cells. In some cells they are scattered and few, but in others have increased until they have filled the cytoplasm, with consequent degeneration of the whole cell. The description is illustrated by 21 figures, 15 of them coloured.

L. W. HARRISON.

MIYAGAWA, Y., MITAMURA, T., YAOI, H., ISHII, N., and OKANISHI, J. "Studies on the Virus of Lymphogranuloma Inguinale Nicolas, Favre and Durand. Third Report: Studies on Filtration, especially Ultra-filtration of the Virus. Fourth Report: Cultivation of the Virus on the Chorio-Allantoic Membrane of the Chicken Embryo. Fifth Report: Resistance of the Virus to Heat, Cold and Desiccation, Virus Dilution Experiment, Virulicidin and Allergene Neutralisation." *Japanese J. Exper. Med.* 1935, v. 13, 723-31; 733-8, 1 chart; 739-50, 8 figs. (4 coloured) on 2 pls. [12 refs.]

HERE the authors describe the results of three series of experiments.

(1) Having noted that there has been a good deal of discrepancy in the reports of various workers as to the filtrability of the virus of L.i. they made emulsions from human lymph glands and infected mouse brains and tested them to see if they would pass through filters of various kinds and sizes. As a result of six such experiments they were able to show that the virus can easily pass through such filters as Chamberland L<sub>2</sub>, L<sub>3</sub>, Berkefeld VN and Seitz EK; it can also pass through a collodion membrane with a pore size larger than  $0.33 \mu$  but not one with a pore size less than  $0.24 \mu$ . Moreover, they were able to demonstrate their "granulocorpuscles" (which they



## BRITISH JOURNAL OF VENEREAL DISEASES

believe to be the causal organisms) on the surface of a collodion membrane with a pore size less than  $0.24 \mu$ .

(2) In their second communication they describe successful cultivation of the virus on the chorio-allantoic membrane of the chicken embryo; they were able to carry this on for five successive sub-cultures. The material obtained from sub-culture showed typical granulocorpuscles and was found virulent for mice.

(3) In their third communication they describe experiments on the resistance of the virus. They found that it remained active at room temperature for 24 to 48 hours; at  $30^{\circ}\text{C}$ . for 24 hours; it died at  $37^{\circ}\text{C}$ . in 24 hours. It barely survives  $46^{\circ}\text{C}$ . for 30 minutes and is killed in 10 minutes at  $56^{\circ}\text{C}$ .

As regards cold, infected mouse brain kept at  $4^{\circ}\text{C}$ . retained its virulence (though diminished) for 23 days, whilst at  $-10^{\circ}\text{C}$ . to  $-20^{\circ}\text{C}$ . the virus was still active after 30 days. Frozen mouse brain placed in a vacuum over sulphuric acid retained its virulence for 30 days but not for 35.

Dilutions of infected mouse brain emulsions were found to be virulent up to 1 in 10,000 but not 1 in 100,000.

Experiments seemed to prove that virulicidin is present in human convalescent serum but that the latter is not able to neutralise Frei antigen.

T. E. OSMOND.